# FIGURE 1A

**Amino acid sequence of human CCR5 [SEQ ID NO: 1]:**

1 **MDYQVSSPIY DINYYTSEPC QKINVKQIAA** RLLPPLYSLV FIFGFVGNML VILILINCKR
*N-Terminus* *Transmembrane Domain 1*

61 LKSMTDIYLL NLAISDLFFL LTVPFWAHYA AAQWDFGNTM CQLLTGLYFI GFFSGIFFII
*LOOP 1* *Transmembrane Domain 2* *Loop 2* *Transmembrane Domain 3*

121 LLTIDRYLAV VHAVFALKAR TVTFGVVTSV ITWVVAVFAS LPGIIF**TRSQ KEGLHYTCSS**
*Loop 3* *Transmembrane Domain 4* *Loop 4*

181 **HFPYSQYQFW KNFQTLKI**VI LGLVLPLLVM VICYSGILKT LLRCRNEKKR HRAVRLIFTI
*Transmembrane Domain 5* *Loop 5*

241 MIVYFLFWAP YNIVLLLNTF **QEFFGLNNCS SSNRLDQAMQ VTETLGMTHC** CINPIIYAFV
*Transmembrane Domain 6* *Loop 6* *Transmembrane Domain 7*

301 GEKFRNYLLV FFQKHIAKRF CKCCSIFQQE APERASSVYT RSTGEQEISV GL
*C-Terminus*

# FIGURE 1B

**Peptide fragments derived from human CCR5 that are used as target peptides:**

N-terminal fragment [SEQ ID NO: 8]:

**MDYQVSSPIYDINYYTSEPCQKINVKQIAARLLPPL**

Loop 4 fragment [SEQ ID NO: 9]:

**TRSQKEGLHYTCSSHFPYSQYQFWKNFQTLKI**

Loop 6 fragment [SEQ ID NO: 3]:

**EFFGLNNCSSSNRLDQAMQVTETLGMTHC**

# FIGURE 1C

**A model of the secondary structure of human CCR5:**

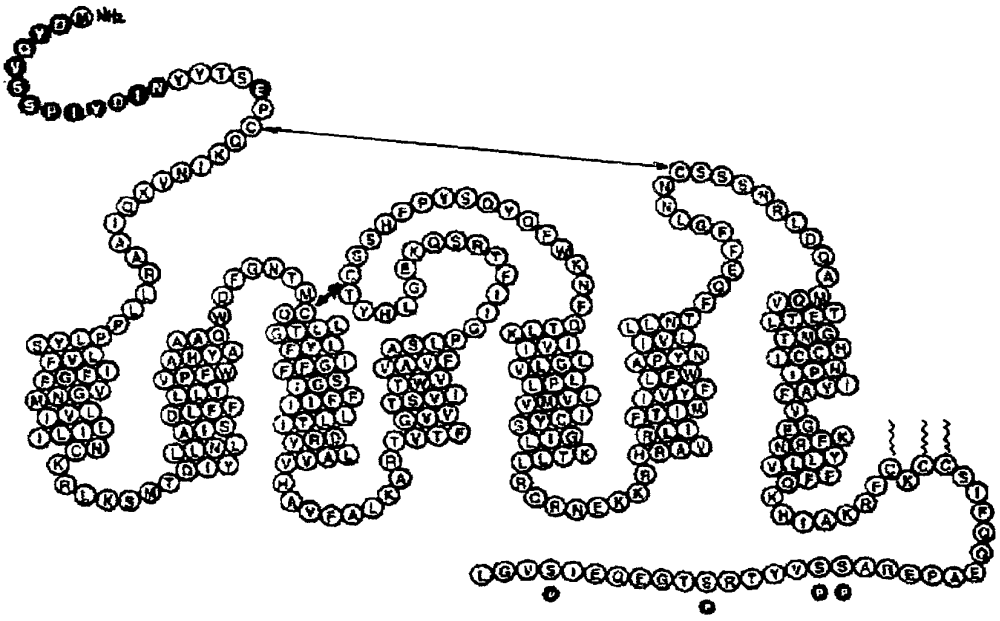
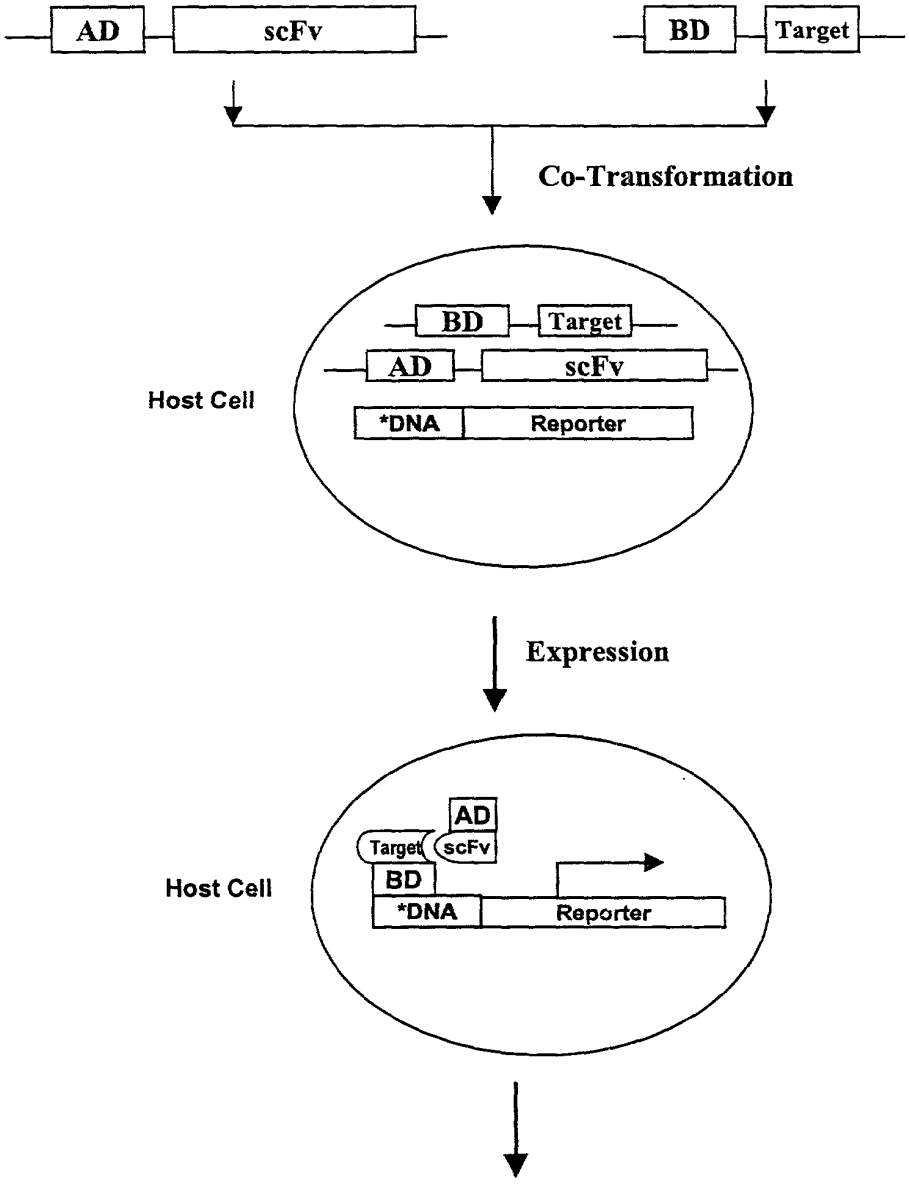
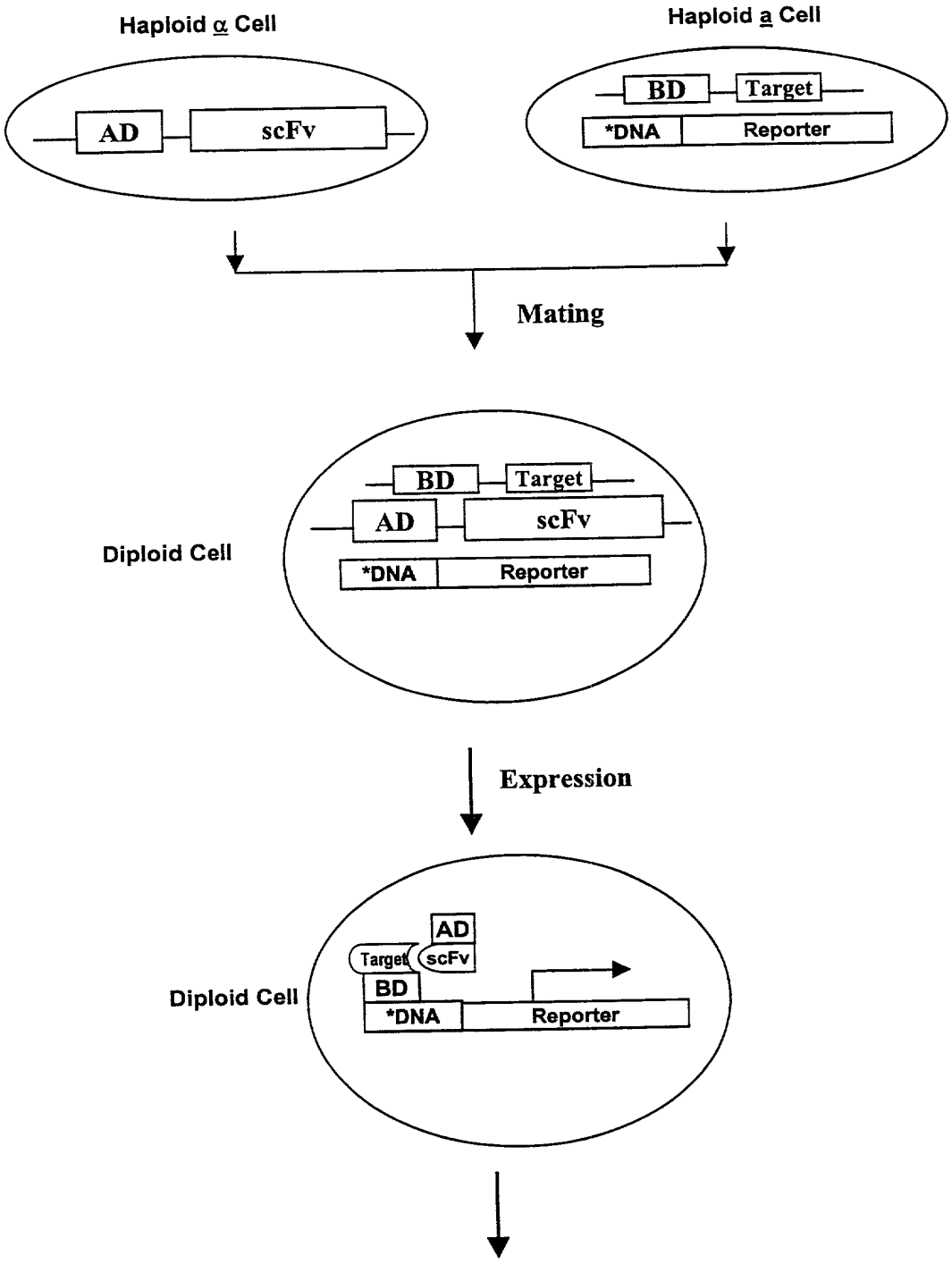


**FIGURE 2A**




**Selection of Clones Indicating Positive Binding Between the scFv antibody and the Target**

**FIGURE 2B**




**Selection of Clones Indicating Positive Binding Between the scFv antibody and the Target**

**FIGURE 3**

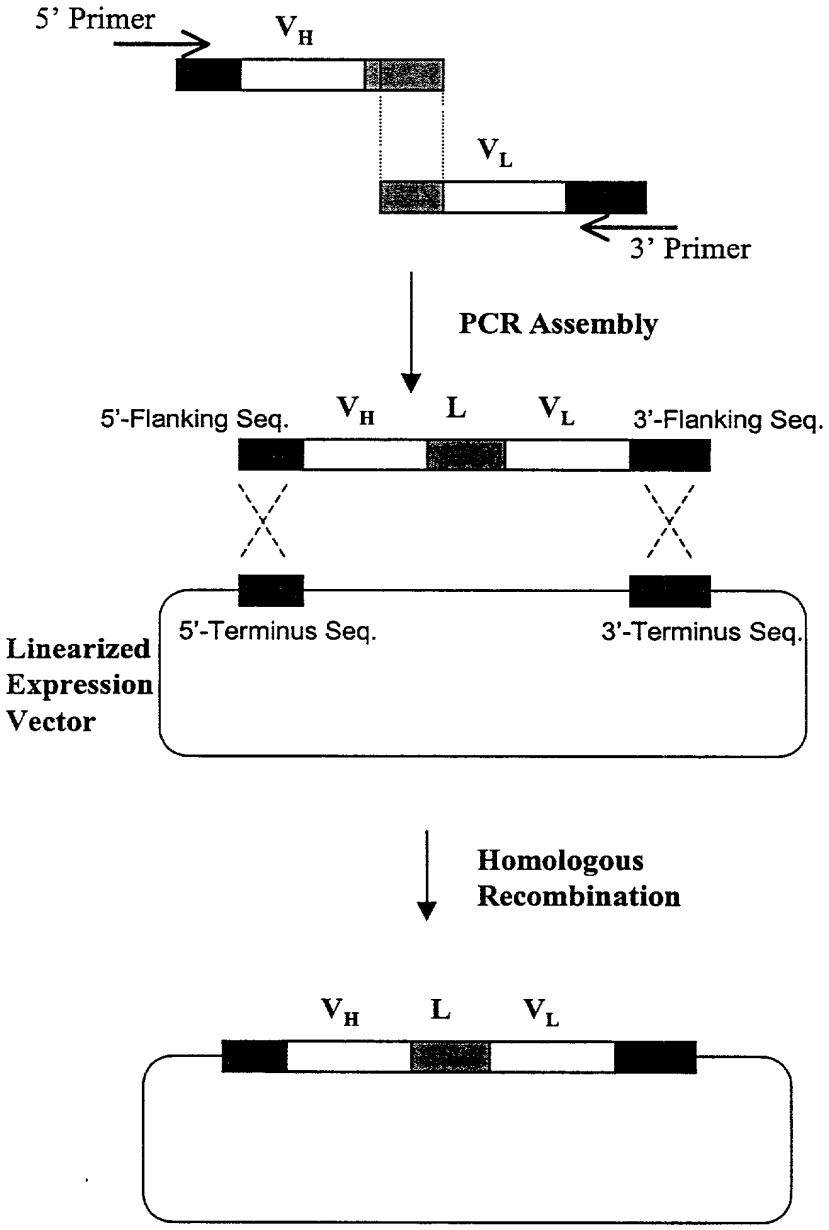
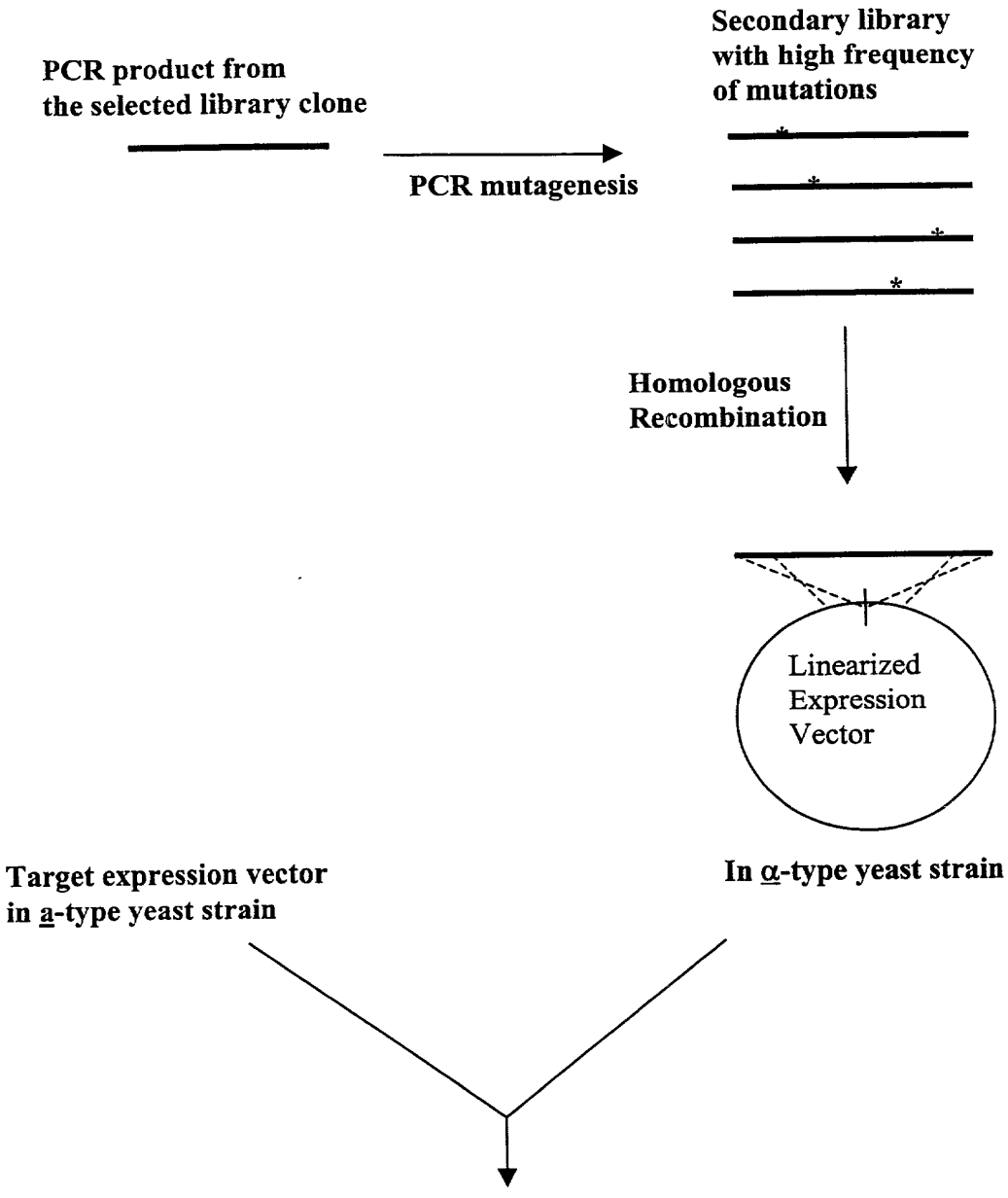

5' Primer
$V_H$
$V_L$
3' Primer
PCR Assembly
5'-Flanking Seq.
$V_H$
L
$V_L$
3'-Flanking Seq.
Linearized Expression Vector
5'-Terminus Seq.
3'-Terminus Seq.
Homologous Recombination
$V_H$
L
$V_L$

**FIGURE 4**


PCR product from
the selected library clone
PCR mutagenesis
Secondary library
with high frequency
of mutations
Homologous
Recombination
Linearized
Expression
Vector
In α-type yeast strain
Target expression vector
in a-type yeast strain
Screening in yeast by mating and isolating high affinity clones

# FIGURE 5

**DNA sequence of clone 15.186.35 scFv against N-terminus fragment of human CCR5 [SEQ ID NO: 16]:**

CAGGTTACCTTGAAGGAGTCTGGTCCTACGTTGGTGAAACCCACACAGACCCTCACGCTGACCTGCACCTTGTCTGGGTT
CTCACTCAGCACTAGTGGAGTGAGTGTGGGCTGGATCCGTCAGCCCCCAGGAAAGGCCCTTGAGTGGCTTGCAAGCATAA
ATTGGAATGATGATAAGTGCTACAGCCCATCTCTGAAAAGCAGGCTCACCATCACCAAGgACACCCCCaAAAACCAGGTG
GTCCTTGCAATGAGCAACATGGACCCTGCGGACACAGCCACATATTCCTGTGCACTCGATATGCCCCCCCATGATAGTGG
CCCGCAATCTTTTGATGCTTCTGATGTCTGGGGCCCAGGGACAATGGTCACCGTCTCTTCAGGCGGTGGTGGATCAGGCG
GCGGAGGATCTGGCGGAGGTGGCAGCGGTGGTGGAGGCAGTTCCTATGAGCTGATGCAGCTACCCTCAGTGTCCGTGTCC
CCAGGACAGACAGCCAGCATCACCTGCTCTGGAGATAATTTGGGGGATAAATATGCCTGCTGGTATCAACAGAAGCCAGG
CCGGTCCCCTGTGCTGGTCATTTATGGAGATAACAAGCGGCCCTCAGGGATCCCTGAGCGATTCTCTGGCTCCAACTCTG
GGAACACAGCCACTCTGACCATCAGCGGGACCCAGGCTATGGATGAGGCTGACTATTACTGTCAGGCGTGGGACACCAGC
ACTGCTGTCTTCGGAACTGGGACCAAGCTCACCGTCCTA

**Amino acid sequence of clone 15.186.35 scFv against N-terminus fragment of human CCR5 [SEQ ID NO: 17]:**

QVTLKESGPTLVKPTQTLTLTCTLSGFSLSTSGVSVGWIRQPPGKALEWLASINWNDDKCYSPSLKSRLTITKDTPKNQV
VLAMSNMDPADTATYSCALDMPPHDSGPQSFDASDVWGPGTMVTVSSGGGGSGGGGSGGGGSGGGGSSYELMQLPSVSVS
PGQTASITCSGDNLGDKYACWYQQKPGRSPVLVIYGDNKRPSGIPERFSGSNSGNTATLTISGTQAMDEADYYCQAWDTS
TAVFGTGTKLTVL

**DNA sequence of clone 15.150.11 scFv against loop 6 fragment of human CCR5 [SEQ ID NO: 18]:**

CAGGTGCAGCTGCAGGAGTCGGGCCCAGGACTGGTGAAGCCTTCGGAGACCCTGTCCCTCACTTGCACTGTCTCTGGTGG
CTCCATCGGTCATGACTACTGGAGCTGGATACGGCAGCCCCCAGGGGAGGGACTGGAGTGGATTGGTTTCATCTTCTTCG
ATGGGAGCACCAACTACAACCCCTCCCTCAACGGTCGAGtCACCATCTCACTCGACACGTCGAAGAATCAGCTCTCCCTG
AGGCTGACCTCTGTGACCGCTGCGGACACGGCCGTGTATTTCTGTGCGAGACTAAAGGGGGCGTGGTTATTGTCTGAACC
CCCTTACTTCAGCTCCGACGGCATGGACGTCTGGGGCCAAGGGACCACGGTCACCGTCCCCTCAGGCGGTGGTGGATCAG
GCGGCGGAGGATCTGGCGGAGGTGGCAGCGGTGGTGGAGGCAGTAATTTTATGCTGACTCAGCCCCCCTCAGCGTCTGGG
ACCCCCGGGCAGAGGGTCAGCATCTCTTGTTCTGGGAGCAGCTCCGACATCGGAAGTAATACTGTAAACTGGTACCAGCA
ACTCCCAGGAACGGCCCCCAAACTCCTCATCTATAGTAATAATCAGCGGCCCTCAGGGGTCCCTGACCGATTCTCTGGCT
TCAAGTCTGGCACCTCAGCCTCCCTGGTCATCAGTGGCCTCCAGTCTGAGGATGAGGCTGATTATTATTGTGCAGCATGG
GATGAGAGCCTGAATGGTGTGGTGTTCGGCGGAGGACCAAGG

**Amino acid sequence of clone 15.150.11 scFv against loop 6 fragment of human CCR5 [SEQ ID NO: 19]:**

QVQLQESGPGLVKPSETLSLTCTVSGGSIGHDYWSWIRQPPGEGLEWIGFIFFDGSTNYNPSLNGRVTISLDTSKNQLSL
RLTSVTAADTAVYFCARLKGAWLLSEPPYFSSDGMDVWGQGTTVTVPSGGGGSGGGGSGGGGSGGGGSNFMLTQPPSASG
TPGQRVSISCSGSSSDIGSNTVNWYQQLPGTAPKLLIYSNNQRPSGVPDRFSGFKSGTSASLVISGLQSEDEADYYCAAW
DESLNGVVFGGGPR

## FIGURE 5 (cont.)

**DNA sequence of clone 15.150.12 scFv against loop 6 fragment of human CCR5 [SEQ ID NO: 20]:**

CAGGTGCAGCTACAGCAGTGGGGCGCAGGACTGTTGAAGTCTTGGGGAACCCTGTCCCTCACCTGCGCTGTCTCTGGTGC
GTCGTTTAGTGGTtATTATTGGAGCTGGATCCGCCAGCCCCCAGGgAAGGGGCTGGAGTGGATTGGGGAGATCAATCATC
GTGGAAGCACTACCTACAACCCGTCCCTCGACGGTCGAGTCACCATATCATTAGACACATCTACCAACCAGATCTCCCTT
AAACTGACCTCTATGACCGCCGCGGACACGGCCGTGTATTACTGTGCGAGGACAGTGGCTGGTACTAGTGACTACTGGGG
CCAGGGAACCCTGGTCACCGTTTCCTCAGGGAGTGCATCCGCCCCAACGGGCGGTGGTGGATCAGGCGGCGGAGGATCTG
GCGGAGGTGGCAGCGGTGGTGGAGGCAGTAAAACGACACTCACGCAGTCTCCAGCATTCATGTCAGCGACTCCAGGAGAC
AAAGTCAGCATCTCCTGCAAAGCCAGCCGAGACGTTGATGATGATGTGAACTGGTACCAACAGAGACCAGGAGAAGCTCc
TATTTTcATTATTGAAGATGCTACTACTCTCGTTCcTGGAATCTCACCTCGATTCAGTGGCAGCGGGTATGGAACCGATT
TTACCCTCACAATTAATAACATCGATTCTGAGGATGCTGCATATTATTTCTGTCTACAACATGATAATTTCCCGCTCACC
TTCGGCGGAGGGACCAAGGTGGAGATCAAA

**Amino acid sequence of clone 15.150.12 scFv against loop 6 fragment of human CCR5 [SEQ ID NO: 21]:**

QVQLQQWGAGLLKSWGTLSLTCAVSGASFSGYYWSWIRQPPGKGLEWIGEINHRGSTTYNPSLDGRVTISLDTSTNQISL
KLTSMTAADTAVYYCARTVAGTSDYWGQGTLVTVSSGSASAPTGGGGSGGGGSGGGGSGGGGSKTTLTQSPAFMSATPGD
KVSISCKASRDVDDDVNWYQQRPGEAPIFIIEDATTLVPGISPRFSGSGYGTDFTLTINNIDSEDAAYYFCLQHDNFPLT
FGGGTKVEIK

**DNA sequence of clone 15.150.24 scFv against loop 6 fragment of human CCR5 [SEQ ID NO: 22]:**

CAGGTCACCTTGAAGGAGTCTGGTCCTACGCTGGTGAAACCCACACAGACCCTCACGCTGACCTGCACCTTCTCTGGGTT
CTCACTCAGAACTACTGGAGAGGGTGTGGGCTGGGTCCGTCAGCCCCCAGGAAAGGCCCTGGAATGGCTTGCACTCATTT
ATTGGGATGATGATAAGCGCTACAGCCCATCTCTGAAGAGCAGGCTCACCATCACCAAGGACACCTCCAAAAAGCAGGTG
GTCCTTACAATGACCAACGTGGACCCAGCGGACACAGCCACCTATTACTGTACACACGAGCAATACTATTATGATACTAG
TGGTCAGCCATACTACTTTGACTTCTGGGGCCAGGGCACCCTGGTCACCGTCTCCTCAGGCGGTGGTGGATCAGGCGGCG
GAGGATCTGGCGGAGGTGGCAGCGGTGGTGGAGGCAGTAACATCCAGGTGACCCAGTCTCCATCCTCCCTGTCTGCATCT
GTAGGAGACAGAGTCACCATGACTTGCCGGGCGAGTCAGGACATTAGGAAGAATTTAAATTGGTATCAGCAAAAACCAGG
GAAAGCCCCTAAGGTCCTGATCTACGATGCATCCGATTTGGAAACAGGGATCCCATCAAGGTTCAGTGGAAGTGGATCTG
GGACAGATTTTATCCTCACCATCAGCAGCCTGCAGCCTGAAGATATTGCAACATACTACTGTCAACAGTCTGATTATTTA
CCGCTCACTTTCGGCGGAGGGACCAAAGTGGATATCAAA

**Amino acid sequence of clone 15.150.24 scFv against loop 6 fragment of human CCR5 [SEQ ID NO: 23]:**

QVTLKESGPTLVKPTQTLTLTCTFSGFSLRTTGEGVGWVRQPPGKALEWLALIYWDDDKRYSPSLKSRLTITKDTSKKQV
VLTMTNVDPADTATYYCTHEQYYYDTSGQPYYFDFWGQGTLVTVSSGGGGSGGGGSGGGGSGGGGSNIQVTQSPSSLSAS
VGDRVTMTCRASQDIRKNLNWYQQKPGKAPKVLIYDASDLETGIPSRFSGSGSGTDFILTISSLQPEDIATYYCQQSDYL
PLTFGGGTKVDIK

# FIGURE 6

**DNA sequence of a variant of clone 15.186.35 scFv against N-terminus fragment of human CCR5 [SEQ ID NO: 24]:**

CAGGTCACCTTGAAGGAGTCTGGTCCTACGTTGGTGAAACCCACACAGACCCTCACGCTGACCTGCACCTTGTCTGGGTT
CTCACTCAGCACTAGTGGAGTGAGTGTGGGCTGGATCCGTCAGCCCCCAGGAAAGGCCCTTGAGTGGCTTGCAAGCATAA
ATTGGAATGATGATAAGTGCTACAGCCCATCTCTGAAAAGCAGGCTCACCATCACCAAGgACACCCCCaAAAACCAGGTG
GTCCTTGCAATGAGCAACATGGACCCTGCGGACACAGCCACATATTCCTGTGCACTCGATATGCCCCCCCATGATAGTGG
CCCGCAATCTTTTGATGCTTCTGATGTCTGGGGCCCAGGGACAATGGTCACCGTCTCTTCAGGCGGTGGTGGATCAGGCG
GCGGAGGATCTGGCGGAGGTGGCAGCGGTGGTGGAGGCAGTTCCTATGAGCTGATGCAGCTACCCTCAGTGTCCGTGTCC
CCAGGACAGACAGCCAGCATCACCTGCTCTGGAGATAATTTGGGGGATAAATATGCCTGCTGGTATCAACAGAAGCCAGG
CCGGTCCCCTGTGCTGGTCATTTATGGAGATAACAAGCGGCCCTCAGGGATCCCTGAGCGATTCTCTGGCTCCAACTCTG
GGAACACAGCCACTCTGACCATCAGCGGGACCCAGGCTATGGATGAGGCTGACTATTACTGTCAGGCGTGGGACACCAGC
ACTGCTGTCTTCGGAACTGGGACCAAGCTCACCGTCCTA

**Amino acid sequence of a variant of clone 15.186.35 scFv against N-terminus fragment of human CCR5 [SEQ ID NO: 25]:**

QVTLKESGPTLVKPTQTLTLTCTLSGFSLSTSGVSVGWIRQPPGKALEWLASINWNDDKCYSPSLKSRLTITKDTPKNQV
VLAMSNMDPADTATYSCALDMPPHDSGPQSFDASDVWGPGTMVTVSSGGGGSGGGGSGGGGSGGGGSSYELMQLPSVSVS
PGQTASITCSGDNLGDKYACWYQQKPGRSPVLVIYGDNKRPSGIPERFSGSNSGNTATLTISGTQAMDEADYYCQAWDTS
TAVFGTGTKLTVL

**DNA sequence of a variant of clone 15.150.11 scFv against loop 6 fragment of human CCR5 [SEQ ID NO: 26]:**

CAGGTGCAGCTGCAGGAGTCGGGCCCAGGACTGGTGAAGCCTTCGGAGACCCTGTCCCTCACTTGCACTGTCTCTGGTGG
CTCCATCGGTCATGACTACTGGAGCTGGATACGGCAGCCCCCAGGGGAGGGACTGGAGTGGATTGGTTTCATCTTCTTCG
ATGGGAGCACCAACTACAACCCCTCCCTCAACGGTCGAGtCACCATCTCACTCGACACGTCGAAGAATCAGCTCTCCCTG
AGGCTGACCTCTGTGACCGCTGCGGACACGGCCGTGTATTTCTGTGCGAGACTAAAGGGGGCGTGGTTATTGTCTGAACC
CCCTTACTTCAGCTCCGACGGCATGGACGTCTGGGGCCAAGGGACCACGGTCACCGTCTCCTCAGGCGGTGGTGGATCAG
GCGGCGGAGGATCTGGCGGAGGTGGCAGCGGTGGTGGAGGCAGTAATTTTATGCTGACTCAGCCCCCCTCAGCGTCTGGG
ACCCCCGGGCAGAGGGTCAGCATCTCTTGTTCTGGGAGCAGCTCCGACATCGGAAGTAATACTGTAAACTGGTACCAGCA
ACTCCCAGGAACGGCCCCCAAACTCCTCATCTATAGTAATAATCAGCGGCCCTCAGGGGTCCCTGACCGATTCTCTGGCT
TCAAGTCTGGCACCTCAGCCTCCCTGGTCATCAGTGGCCTCCAGTCTGAGGATGAGGCTGATTATTATTGTGCAGCATGG
GATGAGAGCCTGAATGGTGTGGTGTTCGGCGGAGGAACCAAGGTGACCGTCCTA

**Amino acid sequence of a variant of clone 15.150.11 scFv against loop 6 fragment of human CCR5 [SEQ ID NO: 27]:**

QVQLQESGPGLVKPSETLSLTCTVSGGSIGHDYWSWIRQPPGEGLEWIGFIFFDGSTNYNPSLNGRVTISLDTSKNQLSL
RLTSVTAADTAVYFCARLKGAWLLSEPPYFSSDGMDVWGQGTTVTVSSGGGGSGGGGSGGGGSGGGGSNFMLTQPPSASG
TPGQRVSISCSGSSSDIGSNTVNWYQQLPGTAPKLLIYSNNQRPSGVPDRFSGFKSGTSASLVISGLQSEDEADYYCAAW
DESLNGVVFGGGTKVTVL

## FIGURE 6 (cont.)

**DNA sequence of a variant of clone 15.150.12 scFv against loop 6 fragment of human CCR5 [SEQ ID NO: 28]:**

CAGGTGCAGCTACAGCAGTGGGGCGCAGGACTGTTGAAGTCTTGGGGAACCCTGTCCCTCACCTGCGCTGTCTCTGGTGC
GTCGTTTAGTGGTtATTATTGGAGCTGGATCCGCCAGCCCCCAGGgAAGGGGCTGGAGTGGATTGGGGAGATCAATCATC
GTGGAAGCACTACCTACAACCCGTCCCTCGACGGTCGAGTCACCATATCATTAGACACATCTACCAACCAGATCTCCCTT
AAACTGACCTCTATGACCGCCGCGGACACGGCCGTGTATTACTGTGCGAGGACAGTGGCTGGTACTAGTGACTACTGGGG
CCAGGGAACCCTGGTCACCGTTTCCTCAGGGAGTGCATCCGCCCCAACGGGCGGTGGTGGATCAGGCGGCGGAGGATCTG
GCGGAGGTGGCAGCGGTGGTGGAGGCAGTGAAACGACACTCACGCAGTCTCCAGCATTCATGTCAGCGACTCCAGGAGAC
AAAGTCAGCATCTCCTGCAAAGCCAGCCGAGACGTTGATGATGATGTGAACTGGTACCAACAGAGACCAGGAGAAGCTCc
TATTTTcATTATTGAAGATGCTACTACTCTCGTTCcTGGAATCTCACCTCGATTCAGTGGCAGCGGGTATGGAACCGATT
TTACCCTCACAATTAATAACATCGATTCTGAGGATGCTGCATATTATTTCTGTCTACAACATGATAATTTCCCGCTCACC
TTCGGCGGAGGGACCAAGGTGGAGATCAAA

**Amino acid sequence of a variant of clone 15.150.12 scFv against loop 6 fragment of human CCR5 [SEQ ID NO: 29]:**

QVQLQQWGAGLLKSWGTLSLTCAVSGASFSGYYWSWIRQPPGKGLEWIGEINHRGSTTYNPSLDGRVTISLDTSTNQISL
KLTSMTAADTAVYYCARTVAGTSDYWGQGTLVTVSSGSASAPTGGGGSGGGGSGGGGSGGGGSETTLTQSPAFMSATPGD
KVSISCKASRDVDDDVNWYQQRPGEAPIFIIEDATTLVPGISPRFSGSGYGTDFTLTINNIDSEDAAYYFCLQHDNFPLT
FGGGTKVEIK

**DNA sequence of a variant of clone 15.150.24 scFv against loop 6 fragment of human CCR5 [SEQ ID NO: 30]:**

CAGGTCACCTTGAAGGAGTCTGGTCCTACGCTGGTGAAACCCACACAGACCCTCACGCTGACCTGCACCTTCTCTGGGTT
CTCACTCAGAACTACTGGAGAGGGTGTGGGCTGGGTCCGTCAGCCCCCAGGAAAGGCCCTGGAATGGCTTGCACTCATTT
ATTGGGATGATGATAAGCGCTACAGCCCATCTCTGAAGAGCAGGCTCACCATCACCAAGGACACCTCCAAAAAGCAGGTG
GTCCTTACAATGACCAACGTGGACCCAGCGGACACAGCCACCTATTACTGTACACACGAGCAATACTATTATGATACTAG
TGGTCAGCCATACTACTTTGACTTCTGGGGCCAGGGCACCCTGGTCACCGTCTCCTCAGGCGGTGGTGGATCAGGCGGCG
GAGGATCTGGCGGAGGTGGCAGCGGTGGTGGAGGCAGTAACATCCAGGTGACCCAGTCTCCATCCTCCCTGTCTGCATCT
GTAGGAGACAGAGTCACCATGACTTGCCGGGCGAGTCAGGACATTAGGAAGAATTTAAATTGGTATCAGCAAAAACCAGG
GAAAGCCCCTAAGGTCCTGATCTACGATGCATCCGATTTGGAAACAGGGATCCCATCAAGGTTCAGTGGAAGTGGATCTG
GGACAGATTTTATCCTCACCATCAGCAGCCTGCAGCCTGAAGATATTGCAACATACTACTGTCAACAGTCTGATTATTTA
CCGCTCACTTTCGGCGGAGGGACCAAAGTGGATATCAAA

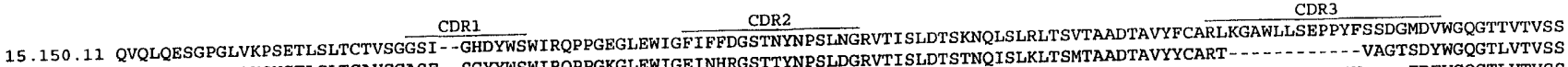
**Amino acid sequence of a variant of clone 15.150.24 scFv against loop 6 fragment of human CCR5 [SEQ ID NO: 31]:**

QVTLKESGPTLVKPTQTLTLTCTFSGFSLRTTGEGVGWVRQPPGKALEWLALIYWDDDKRYSPSLKSRLTITKDTSKKQV
VLTMTNVDPADTATYYCTHEQYYYDTSGQPYYFDFWGQGTLVTVSSGGGGSGGGGSGGGGSGGGGSNIQVTQSPSSLSAS
VGDRVTMTCRASQDIRKNLNWYQQKPGKAPKVLIYDASDLETGIPSRFSGSGSGTDFILTISSLQPEDIATYYCQQSDYL
PLTFGGGTKVDIK

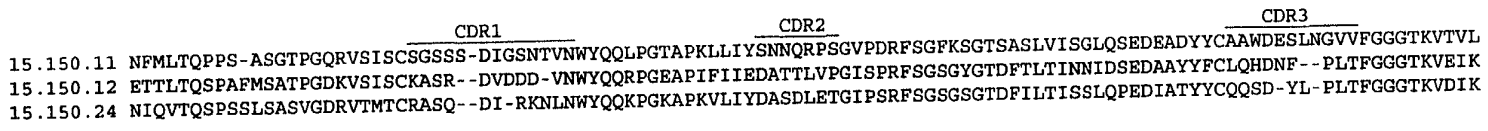
# FIGURE 7

**Amino acid sequence alignment of variants of selected scFv antibodies against loop 6 of human CCR5**

$V_H$ region:




$V_L$ region:



# FIGURE 8

**Amino acid sequences of variable regions of clone 15.186.35 scFv against N-terminus fragment of human CCR5**

$V_H$ region [SEQ ID NO: 34]:
QVTLKESGPTLVKPTQTLTLTCTLSGFSLSTSGVSVGWIRQPPGKALEWLASINWNDDKCYSPSLKSRLTITKDTPKNQV
VLAMSNMDPADTATYSCALDMPPHDSGPQSFDASDVWGPGTMVTVSS

$V_L$ region [SEQ ID NO: 35]:
SYELMQLPSVSVSPGQTASITCSGDNLGDKYACWYQQKPGRSPVLVIYGDNKRPSGIPERFSGSNSGNTATLTISGTQAM
DEADYYCQAWDTSTAVFGTGTKLTVL

**Partial amino acid sequences of variable regions of clone 15.150.11 scFv against loop 6 fragment of human CCR5**

$V_H$ region [SEQ ID NO: 36]:
QVQLQESGPGLVKPSETLSLTCTVSGGSIGHDYWSWIRQPPGEGLEWIGFIFFDGSTNYNPSLNGRVTISLDTSKNQLSL
RLTSVTAADTAVYFCARLKGAWLLSEPPYFSSDGMDVWGQGTTVTV

$V_L$ region [SEQ ID NO: 37]:
NFMLTQPPSAXGTPGQRVSISCSGSSSDIGSNTVNWYQQLPGTAPKLLIYSNNQRPSGVPDRFSGFKSGTSASLVISGLQ
SEDEADYYCAAWDESLNGVVFGGG

**Partial amino acid sequences of variable regions of clone 15.150.12 scFv against loop 6 fragment of human CCR5**

$V_H$ region [SEQ ID NO: 38]:
QVQLQQWGAGLLKSWGTLSLTCAVSGASFSGYYWSWIRQPPGKGLEWIGEINHRGSTTYNPSLDGRVTISLDTSTNQISL
KLTSMTAADTAVYYCARTVAGTSDYWGQGTLVTVSS

$V_L$ region [SEQ ID NO: 39]:
TTLTQSPAFMSATPGDKVSISCKASRDVDDDVNWYQQRPGEAPIFIIEDATTLVPGISPRFSGSGYGTDFTLTINNIDS
EDAAYYFCLQHDNFPLTFGGGTKVEIK

**Amino acid sequences of variable regions of clone 15.150.24 scFv against loop 6 fragment of human CCR5**

$V_H$ region [SEQ ID NO: 40]:
QVTLKESGPTLVKPTQTLTLTCTFSGFSLRTTGEGVGWVRQPPGKALEWLALIYWDDDKRYSPSLKSRLTITKDTSKKQV
VLTMTNVDPADTATYYCTHEQYYYDTSGQPYYFDFWGQGTLVTVSS

$V_L$ region [SEQ ID NO: 41]:
NIQVTQSPSSLSASVGDRVTMTCRASQDIRKNLNWYQQKPGKAPKVLIYDASDLETGIPSRFSGSGSGTDFILTISSLQP
EDIATYYCQQSDYLPLTFGGGTKVDIK

20020626 "20020626"

**FIGURE 9A**

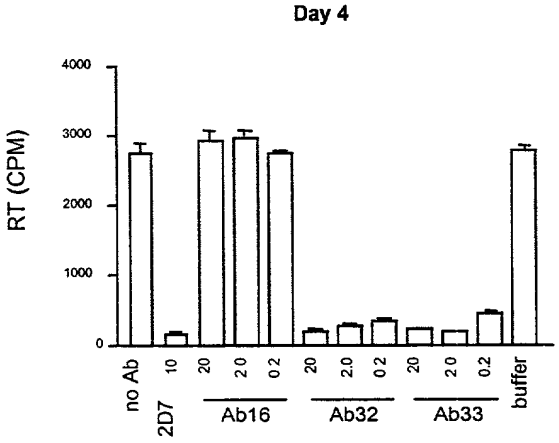



**FIGURE 9B**

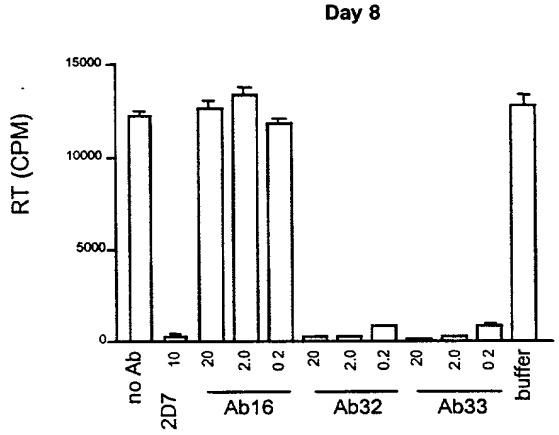



**FIGURE 9C**

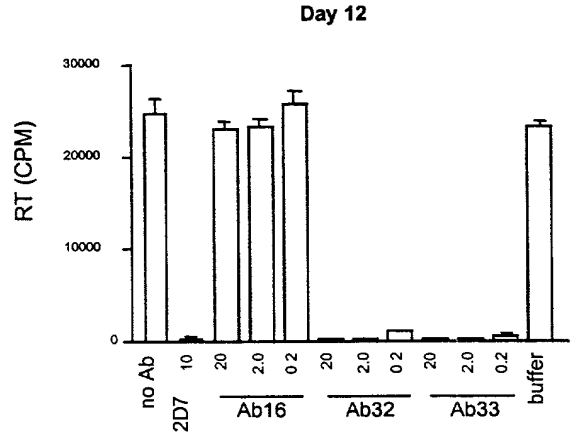


**FIGURE 10A**

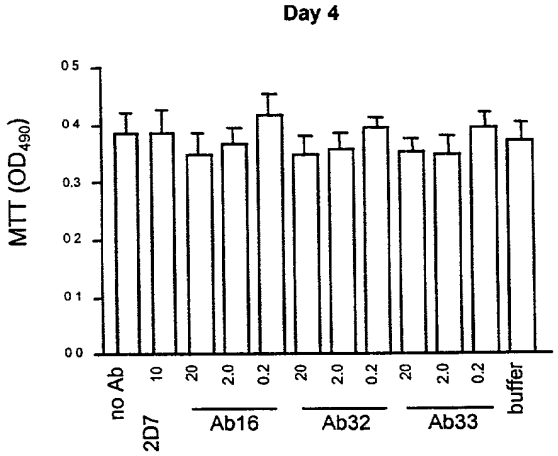



**FIGURE 10B**

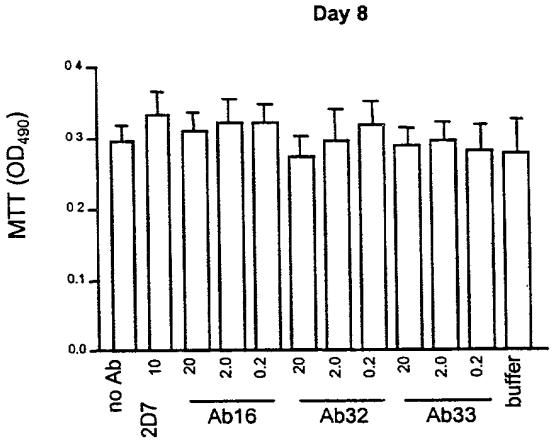



**FIGURE 10C**

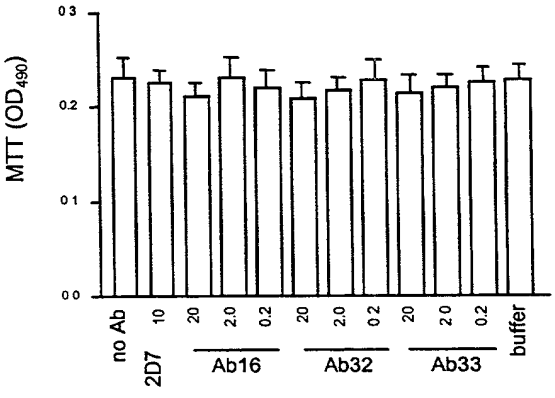


**FIGURE 11A**

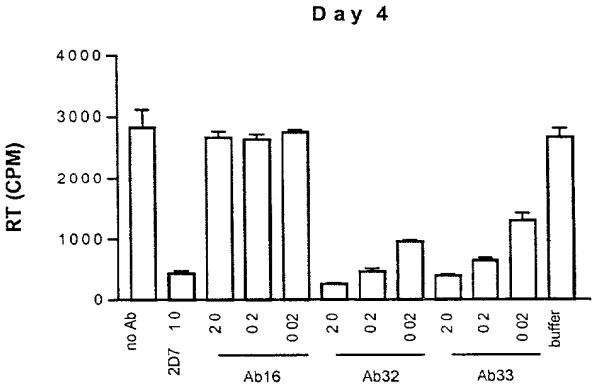



**FIGURE 11B**

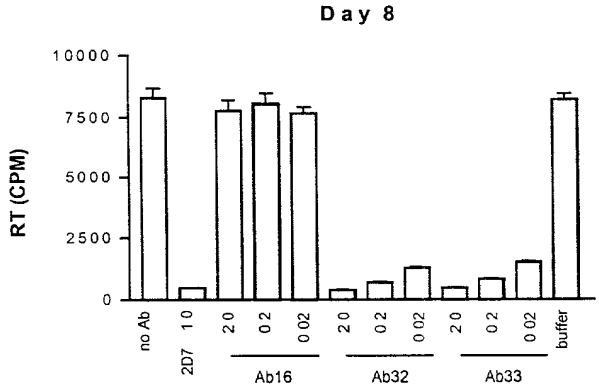



**FIGURE 11C**

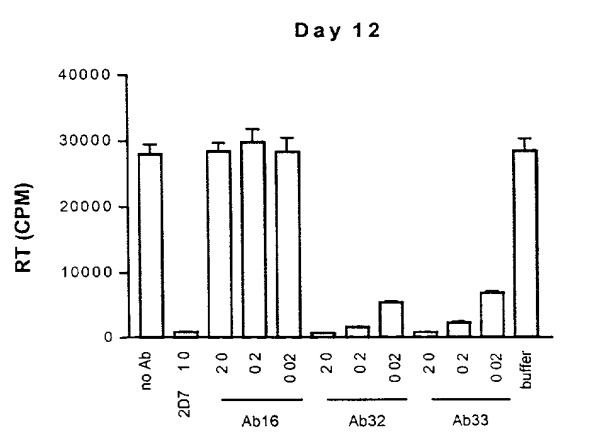


**FIGURE 12**

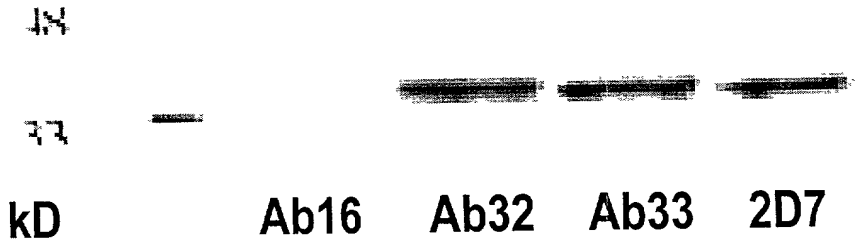
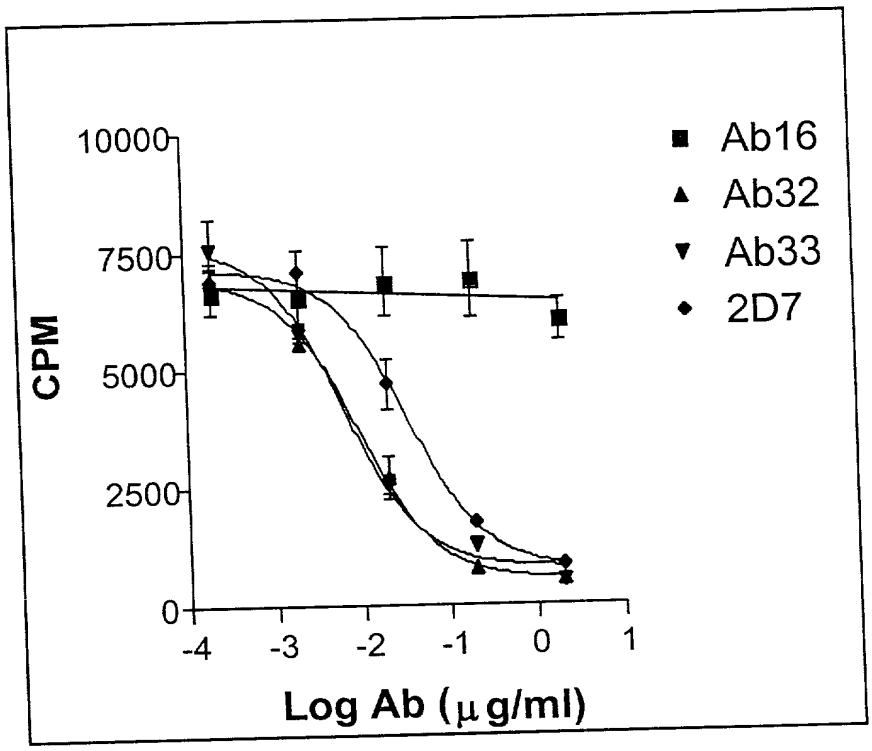


**FIGURE 13**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5000
2500
0
CPM
-4
-3
-2
-1
0
1
Log Ab (μg/ml)
Ab16
Ab32
Ab33
2D7
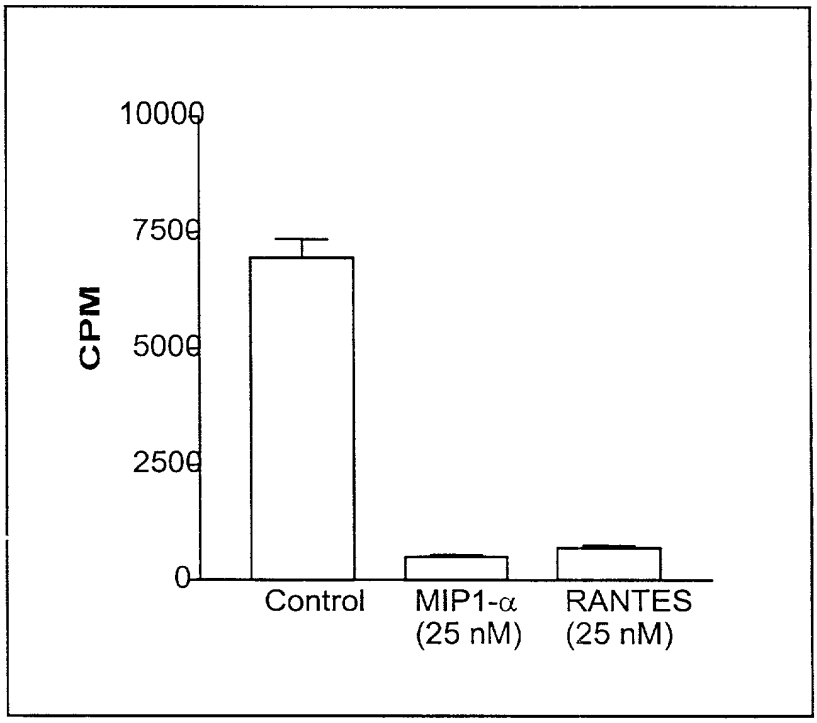
**FIGURE 14**